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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,600	04/28/2006	Martin Saeterbo	BRYN/0015	3324

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EXAMINER

SWINNEY, JENNIFER B

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3724

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,600	Applicant(s) SAETERBO ET AL.	
	Examiner JENNIFER SWINNEY	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,8-12 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,8-12 and 15-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/12/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendments filed 22 December 2009 have been entered. Claims 1-4, 8-12, 15-22 remain pending in the application. Claims 5-7, 13, 14 have been cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-10, 15, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 20020083805 to Lundblad (Lundblad) in view of US Patent No. 6,871,565 to Allaei (Allaei) and in further view of US Patent Application Publication No. 2002003083 to Claesson et al. (Claesson).

In Re to Claim 1, Lundblad teaches a device (Fig. 10) for vibration damping and or/controlling the flexion of an object in machining, wherein the object is a tool, tool holder, or workpiece which comprises at least one force exchange device (Fig. 10) and a locator sleeve (Fig. 10, 13) moveable along an outer surface on an object.

In Re to Claims 2 and 9, a force transmission device (Fig. 10, it has been interrupted, a force transmission device is any structure capable of transmitting a force, therefore, the force transmission device and sleeve 13 are integral and are capable of transmitting a force. As indicative of Figures 5 and 6 of the pending application, the

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sleeve and force transmitting device are an integral structure) positioned between a force exchange device (Fig. 10) and an object (Fig. 10).

In Re to Claim 3, a force exchange device (Fig. 10, 8) disposed between a clamp (Fig. 10, 2) and the object (Fig. 10); a control unit (Fig. 10, 14) for regulating input to an actuator.

In Re to Claim 4, the force exchange device (Fig. 10) is disposed between the force transmission device and the locator sleeve (Fig. 10, 13, the locator sleeve and the force transmission device are an integral mobile device, therefore, the force exchange device is capable of being disposed between the force transmission device and the locator sleeve).

In Re to Claim 10, the force transmission device and the force exchange device are positioned in the locator sleeve (Fig. 10, the force transmission device and the sleeve are integral; therefore a portion of the force transmission device is capable of being positioned within the locator sleeve. Further note, the locator sleeve is mobile; therefore, the force exchange device is capable of being positioned in the locator sleeve).

In Re to Claim 15, a control unit (Fig. 2,28, Pg. 2, Para 0028) for regulating input to an actuator.

In Re to Claim 20, a device is modular and permits different dimensions and geometrical configurations of the object (Fig. 10, 9, inserts are known to be interchangeable and comprise of various shapes).

In Re to Claims 1, 8, and 18, Lundblad does not explicitly teach the force exchange device is external to the surface of the object comprises at least one actuator attached to a locator sleeve surrounding the object, the locator sleeve with at least one actuator is moveable along an outer surface of the object, wherein at least one force exchange device is operative to exchange a force having a force component direct at right angles to the surface of the object.

In Re to Claims 1 and 18, Allaei teaches it is known in the art of controlling vibrations for a locator sleeve (Fig. 9, 170) surrounding an object (Fig. 9) at least one actuator (Fig. 9, 180) attached to the locator sleeve surround an object, in which the locator sleeve with the at least one actuator (Fig. 9, 180) is moveable along an outer surface of an object (Col. 13, lines 35-38), in which the actuator is a piezoelectric force actuator (Fig. 9).

In Regards to Claim 1, Lundblad does not explicitly teach a force exchange device exchanges a force component directed at right angles. However, Claesson teaches a force exchange device having a force component directed at a right angle while parallel to the surface object (Fig. 1, Pg 2, Para 0027); or exchanging a moment between the object and device (Pg. 3, 0031, it is noted, although Fig. 2 and Fig. 5 are different embodiments, the tool holder and actuators of Fig. 2 are capable of functioning as described by Fig. 5).

Examiner notes, it is old and well known in the art of vibrations for elongation and bending deformations to occur as vibrations are produced during a machining process. These deformations are capable of being controlled by use of piezoelectric actuators,

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which aid in controlling damping and vibrations. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to provide the locator sleeve of Lundblad with an actuator as taught by Allaei to position the sleeve in a desired location along the object to aid in controlling the flexion and vibrations produced during a machining process. It is noted, the sleeve of Lundblad is capable of movement and it would have been obvious to provide any actuating inducing mechanism within the sleeve to produce movement along an object. The actuator positioned in the locator sleeve allows a force to be exchanged during a machining process and damping to occur along the surface of the object during a machining process. Claesson explicitly teaches a force exchange device is capable of exchanging a force having force component directed at right angle to the surface of an object, therefore, the force exchange device of Lundblad is capable of exchanging a force having force components upon engaging a workpiece. It is further noted, it would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

4. Claims 11, 12, 16, 17, 19, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundblad in view of Allaei and Claesson and in further view of US Patent No. 5,913,955 to Redmond.

In Regards to Claim 16, Lundblad in view of Allaei and Claesson teach a sensor (Fig. 2, 24, 25, Claesson) disposed on or in the object for detecting vibrations of the object.

In Regards to Claims 11, 12, 16, 17, and 19, 21-22, Lundblad in view of Allaei and Claesson do not teach a force exchange device exchanges a moment provided by a connector part for the object for fixing the object, a force exchange device is positioned in the clamp for the object, the sensor is an accelerometer, the actuators are adapted to be passively controlled, the actuators being pneumatic dampers or shunt actuators and/or actively using a damping algorithm, at least one force exchange device is at least one force applying device for applying a force and/or for applying a moment to the object, at least one force exchange is at least one damping device for absorbing vibrations from the object, the damping device being adapted to absorb a force component and/or absorb a moment from the object.

In Regards to Claim 12, Lundblad in view of Allaei and Claesson do not explicitly teach the force exchange device is positioned in the clamp, however, it would have been obvious to one having ordinary skill in the art at the time of invention to manipulate the position of the force exchange device within the damping device to exchange an optimal force in a desired location along the object.

In Regards to Claims 11, 17, 19, and 21-22, Redmond teaches it is old and well known to use accelerometers sensors to provide information to determine the magnitude of the internal moment required to damp the vibrations being produce. Redmond also teaches actively controlled actuators using an algorithm (Col. 5, lines 5-10) an actuator for applying force for applying a moment (Col. 3, lines 4-10), and an actuator for absorbing vibrations from an object (Col. 3, lines 15-21).

Examiner notes, accelerometer sensors are old and well known devices utilized to for communicating specific information. Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to provide Lundblad with an accelerometer sensor as taught by Redmond to communicate the required information for controlling a damping process. Controlling vibrations is essential to reducing noise, wear, and performing a machining process, therefore, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4, 8-12, 15-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER SWINNEY whose telephone number is (571) 270-5843. The examiner can normally be reached on Monday-Friday, 7:30 am-5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Daniel Prone/
Primary Examiner, Art Unit 3724

09 April 2010

/JS/